

**National Antimicrobial Resistance Monitoring System (NARMS)
Quarterly Conference Call**

Date: Tuesday, November 13, 2002

Time: 2:00 E.S.T.

Federal Number: 404-639-4100

Non-federal Number: 800-713-1971

Conference Code: 722825

A. Administrative

1. Roll call
2. Personnel
 - i. Alison Drake, epidemiologist
 - ii. Casey Theriot, microbiologist

B. Surveillance

1. Status of manuscripts and abstracts
2. Status of 2002 isolates
3. Preliminary 2001 results
 - i. 2001 Annual Report
4. NARMS nationwide
 - i. Isolate submission guidelines
 - ii. Log sheets
5. *Salmonella* QA/QC testing

C. Miscellaneous Topics

1. NARMS Interagency Scientific Meeting
2. ELC funding
3. Veterinary School Curriculum

D. Presentations

Name of Meeting	Date of Meeting	Presenter/Attendee	General Topic
NARMS Scientific	November 19-22, 2002	NARMS Epi and Lab	NARMS methods, studies (Animal, Human, Retail)
AAVMC	November 1-3, 2002	Jennifer Nunnery	

E. Upcoming conference calls, meetings, and deadlines

Meetings

NARMS Interagency Scientific Meeting November 2002 Hilton Head, SC

Deadlines

ASM abstract submission December 9-12, 2002

Updated: 10-10-2002		Status of Active Manuscripts			Manuscripts			
Lead investigator (1st author)	Senior Author	Epi-section Author	Proposal	Abstract	Status	Date of last correspondence	Comments	
Anderson, A	Angulo, F		Review of non-typhi <i>Salmonella</i> , NARMS 1996-2001		1	unknown		
Anderson, A	Angulo, F		Human health consequences of antimicrobial use in agriculture	IDSA 2001	5	6/21/2002	submitted to EID	
Bird, M	Barrett T	Stevenson, J	Assessing the Emergence of a Multi-Drug Resistant <i>Salmonella</i> Serotype Newport Using PFGE and Plasmid Profiling (1996-2000)	ICAAC2002	0	5/23/2002		
Chiller, T	Angulo, F		Sensititre review of human enterococci data		0			
Dunne, E	Angulo, F		Detection of a prevalent multi-drug resistant strain of <i>Salmonella</i> Typhimurium, R-type AKSSuT	ASM 2000	2	unknown		
Fiorentino (Rabatsky-Er), T	Angulo, F		Phage type and antimicrobial resistance trends among human <i>Salmonella</i> serotype Typhimurium isolates 1997-1998: Continued dominance of DT104 ACSSuT	ICEID; 2000	4	10/1/2002		
Fontana, J	Angulo, F	NARMS	Evaluation of automated robotyping and PFGE to rapidly determine the prevalence of a MDR <i>Salmonella</i> serotype Newport in MA		3	unknown		
Glynn, K	Angulo, F		Prior antimicrobial use increases sporadic infections with multidrug-resistant <i>Salmonella</i> serotype Typhimurium: a FoodNet case-control study	IDSA; 1998	5	5/28/2002	CID Supplement	
Gupta, A	Angulo, F		Fluoroquinolone-resistant <i>Campylobacter</i> infections in the United States, 1997-2000: NARMS data leads to regulatory action	EIS Conf 2001; IDSA 2001	3	10/1/2002		
Gupta, A	Angulo, F		Antimicrobial S. Newport outbreak and surveillance	IDSA 2001	5	10/1/2002	Submitted to NEJM	
Karpati, A	Rubin, C	Angulo, F	Microbiological characteristics and antimicrobial resistance patterns of bacteria from the local environment of large-scale animal feeding operations		5	unknown		
Kassenborg, H	Angulo, F		Fluoroquinolone-resistant <i>Campylobacter</i> infections: eating poultry outside the home and foreign travel are risk factors	ICEID; 2000	5		CID Supplement	
Kretsinger, K	Angulo, F	Moore, M	Prevalence of HLGR among human and retail food enterococci isolates		0			
McClellan, J	Angulo, F		Fluoroquinolone-resistant <i>Campylobacter</i> causes longer duration of diarrhea than fluoroquinolone-susceptible <i>Campylobacter</i> strains in FoodNet sites	ICEID; 2000	3	10/10/2002		
Olsen, S	Sobel, J		Multistate outbreak of highly resistant <i>Salmonella</i> Typhimurium infections due to pasteurized milk: is our milk safe?	IDSA 2001	1	8/22/2002	Draft being written by author	
Sivapalasingam, S	Angulo, F		Antibiotic resistance of Shigella, NARMS	IDSA 2001	1	10/9/2002		
Stevenson, J	Angulo, F		Nalidixic Acid resistance among non-typhoidal <i>Salmonella</i> , NARMS 1996-2000		1	5/2/2002	Being revised by author	
Thal, L	Angulo, F		Epidemiology of gent resistant enterococci from humans, retail food, and animals in the US: broad geographic spread between humans and animals.	ICAAC 2000	5	8/22/2002	Submitted to Journal of Clinical Microbiology	
Tzouvelekis, L	Whichard, J		Imipenem Resistance in a <i>Salmonella</i> typhimurium Clinical Strain Due to Production of a Plasmid-Mediated Class A Carbapenemase Similar to KPC 1		5	6/24/2002	Submitted to AAC	
Wright, J	Angulo, F		Multidrug-resistant <i>Salmonella</i> outbreaks in veterinary facilities		2	unknown		
Zirnstein, G	Angulo, F		Detection of <i>Salmonella</i> gyr A quinolone resistance mutations by MAMA PCR and DNA sequence analysis		5	unknown		

0=Analysis, 1=Writing, 2=Draft being reviewed by co-authors, 3=Incorporating comments, 4=NCID/CDC clearance, 5=At journal, 6=Published 7=On website

*if in status <2 beyond 6 mos,

Updated: 10-10-2002

Published Manuscripts

Lead investigator (1st author)	Senior Author	Authors	Proposal	Abstract	Status	Journal Citation
McDonald, C	Angulo, F	McDonald C, Rossiter S, Mackinson C, Wang Y, Johnson S, Sullivan M, Sokolow R, DeBess E, Gilbert L, Benson J, Hill B, Angulo F	Quinupristin/dalfopristin-resistant <i>Enterococcus faecim</i> from retail chickens and human stool specimens in the United States	ICEID; 2000	7	NEJM 2001; 345 (16)
Ribot, E	Barrett, T	Ribot E, Wierzba R, Angulo F, Barrett T	Comparison and characterization of <i>Salmonella</i> serotype Typhimurium DT104 isolates from humans in the United States in 1985, 1990 and 1996		7	EID 2002; 8 (4)
Carrattoli, A	Fey, P	Carattoli A, Tosini F, Giles WP, Rupp ME, Hinrichs SH, Angulo FJ, Barrett TJ, and Fey PD	Characterization of plasmids carrying CMY-2 from expanded-spectrum cephalosporin-resistant <i>Salmonella</i> isolated in the United States between 1996 and 1998	ICAAC; 2001	7	AAC 2002; 46 (5): 1269-1272
Crump, J	Angulo, F		Bacterial contamination of commercial animal feed and its relation to human foodborne illness		7	CID 2002; 35 (1 Oct): 859-865

IDSA - 2002

Epi	Title and Authors	Status
1	Fluoroquinolone-resistant <i>Campylobacter jejuni</i> infections in the United States NARMS Data, 1997 - 2001 A. Anderson, J. McClellan, K. Joyce, T. Barrett, F.J. Angulo, and the NARMS Working Group	Accepted; poster
2	Antimicrobial resistance of enterococci isolated from outpatient stools in the United States, 1998-2001 T. Chiller, J. McClellan, S. Rossiter, J.E. Stevenson, K. Gay, K. Joyce, K. Weeks, F. Angulo, and the EIP Enterococci Working Group	Accepted; poster
3	Emergence of Newport9+, a highly resistant strain of <i>Salmonella</i> Newport in the United States A. Gupta, J.E. Stevenson, C. Crowe, J. McClellan, T. Barrett, J. Whichard, F. Angulo, and the NARMS Working Group	Accepted; Oral Presentation
4	Ciprofloxacin and Ceftriaxone Resistance among Human Non-Typhoidal <i>Salmonella</i> in the United States, 1996-2001 F. Angulo, K. Joyce, J. McClellan, K. Stamey, S. Rossiter, T. Barrett, A. Anderson, and the NARMS Working Group	Accepted; poster
5	Emerging resistance to quinolones among <i>Salmonella</i> Typhi isolates in the United States, 1999-2001 M. Reller, J. McClellan, K. Joyce, C. Polyak, E. Mintz, F. Angulo, and the NARMS Working Group	Submitted

NARMS Scientific Meeting- 2002

Epi	Title and Authors	Status
1	Enhanced Surveillance for Antimicrobial Resistance among Enteric Bacteria: NARMS Retail Food Study J.E. Stevenson, D.G. White, D.J. Torpey III, A.S. Craig, K.E. Smith, M.M. Park, M.A. Pascucilla, A.D. Anderson, and the NARMS Working Group	Accepted; Poster
2	Emerging Resistance to Quinolones among <i>Salmonella</i> Typhi Isolates in the United States, 1999-2001 J. McClellan, M. Reller, K. Joyce, C. Polyak, E. Mintz, F.J. Angulo, and the NARMS Working Group	Accepted; Poster
3	Emergence of Newport 9+, a Highly Resistant Strain of <i>Salmonella</i> Newport in the United States F.J. Angulo, A. Gupta, J. E. Stevenson, C. Crowe, J. McClellan, T. Barrett, J.M. Whichard and the NARMS Working Group	Accepted; Poster
4	Appropriate Use of Antimicrobials: A Veterinary Curriculum J. Nunnery and F.J. Angulo	Accepted; Poster
5	Ciprofloxacin and Ceftriaxone Resistance Among Human Non-Typhoidal <i>Salmonella</i> in the United States; 1996-2001 N. Baker, F.J. Angulo, K. Joyce, J.E. Stevenson, J. McClellan, J.M. Whichard, K. Gay, T. Barrett, and the NARMS Working Group	Accepted; Poster
6	High-level Gentamicin-Resistant Enterococci and Quinupristin/Dalfopristin-Resistant <i>E.faecium</i> from Ground Pork Purchased from Grocery Stores A. Drake, J. McClellan, K. Joyce, T. Barrett, F. J. Angulo and the NARMS Enterococci Working Group	Accepted; Poster
Lab	Title and Authors	Status
7	Expanded-Spectrum Beta-Lactam Resistance among Human Clinical Enterobacteriaceae in the United States: Results and Characterization of 2000 NARMS Surveillance J.M. Whichard, K. Joyce, P.D. Fey, J. McClellan, F.J. Angulo, T. Barrett, and the NARMS Working Group	Accepted; Poster
8	Quinolone Resistance of <i>E. coli</i> from Clinical Chicken Specimens, 1981-2000 K. Gay, N. Oorosco, D. Wheeler, C. DebRoy, T. Barrett, A.D. Anderson	Accepted; Poster
9	Assessing the Emergence of a Multidrug Resistant <i>Salmonella</i> Serotype Newport Using PFGE and Plasmid Profiling (1996-2000) M.M. Bird, J.M. Whichard, E. Ribot, J.E. Stevenson, R. Ahmed, T.J. Barrett	Accepted; Poster
10	Antimicrobial Resistance of <i>Enterococci</i> isolated from Outpatient Stools in the United States, 1998-2001 T.M. Chiller, J. McClellan, S. Rossiter, J.E. Stevenson, K. Gay, K. Joyce, K. Lewis, F.J. Angulo and the EIP Enterococci Working Group	Accepted; Poster

Status of NARMS Isolates, 2000-2002
as of November 12, 2000

2002 NARMS (Preliminary)

Isolate	Rec'd CDC (N)	Tested (N)	Tested (%)	Not Tested (N)	Not Tested (%)
<i>Non-Typhi Salmonella</i>	928	299	32	629	68
<i>Salmonella Typhi</i>	104	0	0	104	100
<i>Shigella</i>	278	83	30	195	70
<i>E. coli O157</i>	182	33	18	149	82
<i>Listeria</i>	75	0	0	75	100
<i>Vibrio</i>	70	0	0	70	100
<i>Campylobacter</i> (FoodNet ONLY)	398	398	0	0	100

2001 NARMS (Preliminary)

Isolate	Rec'd CDC (N)	Tested (N)	Tested (%)	Not Tested (N)	Not Tested (%)
<i>Non-Typhi Salmonella</i>	1419	1419	100	0	0
<i>Salmonella Typhi</i>	198	198	100	0	0
<i>Shigella</i>	344	344	100	0	0
<i>E. coli O157</i>	277	277	100	0	0
<i>Listeria</i>	73	0	0	73	100
<i>Vibrio</i>	63	0	0	63	100
<i>Campylobacter</i> (FoodNet ONLY)	390	390	100	0	0

2000 NARMS (Final)

Isolate	Rec'd CDC (N)	Tested (N)	Tested (%)	Not Tested (N)	Not Tested (%)
<i>Non-Typhi Salmonella</i>	1378	1378	100	0	0
<i>Salmonella Typhi</i>	166	166	100	0	0
<i>Shigella</i>	451	451	100	0	0
<i>E. coli O157</i>	407	407	100	0	0
<i>Listeria</i>	0	0	0	0	0
<i>Vibrio</i>	0	0	0	0	0
<i>Campylobacter</i> (FoodNet ONLY)	324	324	100	0	0

Updated: November 12, 2002

National Antimicrobial Resistance Monitoring System (NARMS)
2002 Non-Typhi *Salmonella* isolates sent to CDC
by Site and Month (N=928)

Site	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AZ	21	5	3	4	4	5							
CA	31	1	4	2	5	2	7	5	5				
CO	41	6	3	2	4	4	6	10	6				
CT	27	4	3	3	3	4	5	5					
FL	53	2	7	3	4	8	12	5	9	3			
GA	82	6	5	8	9	14	18	22					
HI	23	1	2	2	6	4	3	4	1				
KS	19	2	1	2	2	3	3	3	3				
LA	44	4	3	6	5	9	8	9					
LX	24	5	4	4	8	3							
MA	60	7	12	6	8	12	8	7					
MD	49	4	6	8	7	6	12	6					
ME	0												
MI	37	8	4	12	7	6							
MN	37	3	2	4	5	4	5	7	7				
MT	5	1	0	1	1	2							
NE	12	2	3	2	1	0	2	2					
NJ	0												
NM	23	3	4	2	2	3	1	4	4				
NYC	55	10	9	9	12	9	6						
NYS	67	8	10	9	16	11	13						
OR	21	2	3	2	5	3	4	2					
SD	13	2	2	1	1	0	3	2	2				
TN	30	4	4	1	4	6	8	3					
TX	90	8	4	7	9	12	14	20	16				
WA	30	4	6	3	8	7	2						
WI	21	2	2	4	6	5	2						
WV	13	3	1	3	2	2	2						
Total	928												

Updated: November 12, 2002

National Antimicrobial Resistance Monitoring System (NARMS)
2002 *Salmonella* Typhi isolates sent to CDC
by Site and Month (N=104)

Site	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AZ	0												
CA	14	3	2	0	2	2	2	2	1				
CO	2	0	1	0	1								
CT	3	1	0	0	0	2							
FL	8	2	0	1	0	3	1	0	1				
GA	4	0	0	2	0	0	2						
HI	1	0	0	0	0	0	0	1					
KS	0												
LA	1	0	1										
LX	8	1	0	4	1	2							
MA	7	3	0	2	1	1							
MD	3	0	0	1	1	1							
ME	0												
MI	5	2	2	1									
MN	3	1	0	1	0	1							
MT	0												
NE	1	0	0	1									
NJ	0												
NM	0												
NYC	21	3	4	3	1	5	5						
NYS	5	0	3	1	0	1							
OR	0												
SD	0												
TN	0												
TX	13	2	1	2	1	1	1	1	4				
WA	4	0	3	1									
WI	1	1											
WV	0												
Total	104												

Updated: November 12, 2002

National Antimicrobial Resistance Monitoring System (NARMS)
2002 *Shigella* isolates sent to CDC
by Site and Month (N=278)

Site	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AZ	5	2	0	1	2								
CA	7	1	0	0	0	0	0	4	2				
CO	10	3	1	0	1	1	0	2	2				
CT	5	1	0	1	1	0	0	2	0				
FL	3	0	0	0	0	1	0	0	2				
GA	52	9	5	5	10	9	8	6					
HI	3	0	1	0	0	1	1						
KS	4	0	1	1	0	1	0	0	1				
LA	23	3	2	0	3	5	7	3					
LX	4	3	0	0	0	1							
MA	11	2	3	1	1	1	2	1					
MD	46	3	5	5	4	12	9	8					
ME	0												
MI	5	3	1	0	0	1							
MN	15	1	1	2	1	4	2	2	2				
MT	0												
NE	6	1	1	2	0	0	1	1					
NJ	0												
NM	11	2	0	2	0	1	2	2	2				
NYC	18	4	4	2	5	2	1						
NYS	8	3	0	2	2	1							
OR	3	1	1	0	0	0	0	1					
SD	11	4	2	2	1	0	2						
TN	4	1	0	1	0	0	2						
TX	17	1	0	2	1	2	3	4	4				
WA	2	0	1	1									
WI	1	0	0	0	0	0	1						
WV	4	1	1	0	1	0	1						
Total	278												

Updated: November 12, 2002

National Antimicrobial Resistance Monitoring System (NARMS)
2002 *E. coli* O157 isolates sent to CDC
by Site and Month (N=182)

Site	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AZ	1	1											
CA	4	0	0	0	1	0	1	1	1				
CO	16	1	1	0	1	1	3	6	3				
CT	7	1	0	1	1	2	1	1					
FL	6	0	0	0	0	0	2	1	3				
GA	26	3	2	2	3	6	6	4					
HI	5	0	0	0	2	1	0	1	1				
KS	1	0	0	0	0	0	0	1					
LA	0												
LX	1	0	1										
MA	13	2	0	2	0	2	3	3	0	0	1		
MD	2	0	0	0	0	1	0	1					
ME	0												
MI	5	1	1	1	1	0	1						
MN	18	0	1	1	1	1	3	6	5				
MT	1	0	0	0	0	0	0	1					
NE	3	1	0	0	0	0	2						
NJ	0												
NM	5	1	1	1	0	1	1						
NYC	2	0	0	0	0	1	1						
NYS	16	2	1	2	1	6	4						
OR	8	0	0	1	2	1	3	1					
SD	9	0	0	0	0	2	2	2	2	1			
TN	3	0	0	0	1	2							
TX	5	0	0	1	0	0	2	1	1				
WA	19	2	1	1	3	6	3	3					
WI	4	1	0	1	1	0	1						
WV	2	2	0	0	0	0							
Total	182												

Updated: November 12, 2002

National Antimicrobial Resistance Monitoring System (NARMS)
2002 *Campylobacter* isolates sent to CDC (FoodNet sites ONLY)
by Site and Month (N=398)

Site	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CA	42	4	4	4	3	5	5	4	6	7			
CO	32	5	3	1	2	3	5	5	3	5			
CT	43	7	2	6	4	3	6	6	5	4			
GA	92	5	5	3	9	12	14	10	20	13	1		
MD	33	3	3	4	1	5	6	4	4	3			
MN	40	5	4	5	5	5	6	5	5				
NY	36	5	3	4	4	4	6	4	4	2			
OR	53	8	2	4	8	2	8	5	10	6			
TN	27	3	4	2	3	6	6	3					
Total	398												

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

Table 23a. Summary: Antimicrobial Resistance of *Salmonella* isolates, 1996-2001

<i>Salmonella</i> , Non-Typhi	1996	1997	1998	1999	2000	2001
<i>Salmonella</i> isolates	1326	1301	1466	1498	1378	1419
Isolates resistant to ≥ 1 antimicrobial agents*	37% (493)	34% (443)	27% (397)	26% (390)	26% (353)	28% (394)
Isolates resistant to ≥ 2 antimicrobial agents*	31% (404)	27% (345)	24% (346)	21% (317)	21% (284)	22% (315)
Isolates resistant to ≥ 5 antimicrobial agents*	12% (163)	14% (182)	14% (207)	12% (177)	11% (159)	12% (170)
Isolates resistant to ≥ 8 antimicrobial agents*	0.3% (4)	1.2% (16)	1.5% (22)	2% (31)	3% (41)	3% (40)
Serotyped <i>Salmonella</i>	93% (1231)	93% (1215)	96% (1411)	97% (1460)	97% (1332)	97% (1372)
Serotyped <i>Salmonella</i> which are Enteritidis	29% (357)	25% (301)	17% (245)	18% (270)	24% (319)	20% (282)
S. Enteritidis isolates resistant to ≥ 1 antimicrobial agents*	31% (110)	26% (78)	12% (30)	17% (45)	11% (35)	14% (40)
Serotyped <i>Salmonella</i> which are Typhimurium**	25% (306)	27% (326)	27% (380)	25% (362)	23% (303)	23% (322)
S. Typhimurium isolates resistant to ≥ 1 antimicrobial agents*	64% (196)	62% (202)	53% (200)	49% (179)	50% (153)	51% (164)
S. Typhimurium with at least ACSSuT resistance pattern	34% (103)	35% (115)	32% (120)	28% (102)	28% (84)	30% (96)
<i>Salmonella</i> isolates that were at least Typhimurium ACSSuT	8% (103)	9% (115)	8% (120)	7% (102)	6% (84)	7% (96)
S. Typhimurium with at least AKSSuT resistance pattern	9% (27)	13% (41)	12% (46)	11% (39)	9% (28)	4% (14)
<i>Salmonella</i> isolates that were at least Typhimurium AKSSuT	2% (27)	3% (41)	3% (46)	3% (39)	2% (28)	1.0% (14)
S. Typhimurium with at least ACKSSuT resistance pattern	4% (13)	3% (9)	4% (17)	3% (12)	3% (8)	1.2% (4)

* Using only antimicrobial agents (n=15) tested in all six years

** Includes S. Typhimurium and S. Typhimurium variant Copenhagen

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

Table 23a. Summary: Antimicrobial Resistance of *Salmonella* 1996-2001

<i>Salmonella</i> , Non-Typhi	1996	1997	1998	1999	2000	2001
<i>Salmonella</i> isolates that were at least Typhimurium ACKSSuT	1.0% (13)	0.7% (9)	1.2% (17)	0.8% (12)	0.6% (8)	0.3% (4)
S. Typhimurium isolates with at least ACSSuT, AKSSuT, or ACKSSuT	42% (130)	48% (156)	44% (166)	39% (141)	37% (112)	34% (110)
Serotyped <i>Salmonella</i> which are Newport	4% (51)	4% (48)	5% (78)	7% (98)	9% (124)	9% (124)
S. Newport isolates resistant to \geq 1 antimicrobial agents*	18% (9)	12% (6)	5% (4)	23% (23)	24% (30)	35% (43)
S. Newport with at least ACSSuT resistance pattern	6% (3)	4% (2)	1.3% (1)	17% (17)	23% (28)	26% (32)
<i>Salmonella</i> isolates that were at least Newport ACSSuT	0.2% (3)	0.2% (2)	0.1% (1)	1.2% (17)	2% (28)	2% (32)
S. Newport with at least AKSSuT resistance pattern	2% (1)	0% (0)	0% (0)	1.0% (1)	5% (6)	6% (7)
<i>Salmonella</i> isolates that were at least Newport AKSSuT	0.1% (1)	0% (0)	0% (0)	0.1% (1)	0.4% (6)	0.5% (7)
S. Newport with at least ACKSSuT resistance pattern	2% (1)	0% (0)	0% (0)	1.0% (1)	5% (6)	6% (7)
<i>Salmonella</i> isolates that were at least Newport ACKSSuT	0.1% (1)	0% (0)	0% (0)	0.1% (1)	0.4% (6)	0.5% (7)
S. Newport isolates with at least ACSSuT, AKSSuT, or ACKSSuT	8% (4)	4% (2)	1.3% (1)	18% (18)	27% (34)	31% (39)
Ciprofloxacin (MIC \geq 0.25)	0.4% (5)	0.5% (7)	0.7% (10)	1.0% (15)	1.4% (20)	1.0% (15)
Ciprofloxacin (MIC $>$ 4)	0% (0)	0% (0)	0.1% (1)	0.1% (1)	0.4% (5)	0.2% (3)
Ceftriaxone (MIC \geq 64) (Sensititre)	0.1% (1)	0.4% (5)	0.7% (10)	1.9% (28)	1.6% (22)	0% (0)
Ceftriaxone (MIC \geq 64) (E-test)	0.1% (1)	0.4% (5)	0.7% (10)	1.9% (28)	1.3% (18)	NA
Ceftriaxone (MIC \geq 64)† (By-hand broth microdilution)	NA	NA	NA	1.6% (24)	2% (28)	2% (34)
Nalidixic Acid (MIC $>$ 32)	0.4% (5)	0.8% (11)	1.4% (20)	1.1% (16)	2% (34)	3% (37)

* Using only antimicrobial agents (n=15) tested in all six years

** Includes S. Typhimurium and S. Typhimurium variant Copenhagen

†By-hand broth microdilution criteria include isolates with a ceftiofur MIC of $>=4\mu\text{g/ml}$ and/or ceftriaxone $>=2\mu\text{g/ml}$

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

Table 23a. Summary: Antimicrobial Resistance of *Salmonella* 1996-2001

<i>Salmonella</i> , Non-Typhi	1996	1997	1998	1999	2000	2001
Amikacin (MIC \geq 64)	Not Tested	0% (0)	0% (0)	0.1% (2)	0% (0)	0% (0)
Amoxicillin-Clavulanic Acid (MIC $>$ 32)	1.5% (20)	1.5% (19)	1.6% (24)	2% (36)	4% (54)	5% (66)
Ampicillin (MIC \geq 32)	21% (279)	18% (241)	16% (241)	16% (234)	16% (219)	17% (247)
Apramycin (MIC \geq 64)	0% (0)	0% (0)	0% (0)	0.3% (5)	0.1% (2)	0% (0)
Cefoxitin (MIC \geq 32)	Not Tested	Not Tested	Not Tested	Not Tested	3% (43)	3% (48)
Ceftiofur (MIC \geq 8)	4% (53)	3% (44)	0.9% (14)	2% (31)	3% (44)	4% (58)
Cephalothin (MIC \geq 32)	3% (47)	3% (43)	2% (33)	4% (55)	4% (54)	4% (57)
Chloramphenicol (MIC $>$ 32)	11% (141)	10% (131)	10% (145)	9% (138)	10% (138)	12% (164)
Gentamicin (MIC \geq 16)	5% (64)	3% (38)	3% (42)	2% (34)	3% (37)	1.9% (27)
Imipenem (MIC \geq 16)	Not Tested	0% (0)				
Kanamycin (MIC \geq 64)	5% (65)	5% (66)	6% (84)	4% (66)	6% (77)	5% (68)
Streptomycin (MIC \geq 64)	21% (275)	22% (282)	19% (273)	17% (253)	16% (223)	17% (241)
Sulfamethoxazole (MIC \geq 512)	23% (305)	25% (328)	19% (283)	18% (271)	17% (235)	18% (251)
Tetracycline (MIC \geq 16)	24% (321)	22% (283)	20% (295)	19% (291)	19% (256)	20% (280)
Trimethoprim-Sulfamethoxazole (MIC \geq 4/76)	4% (51)	1.8% (24)	2% (34)	2% (31)	2% (29)	2% (28)

* Using only antimicrobial agents (n=15) tested in all six years

** Includes *S. Typhimurium* and *S. Typhimurium* variant Copenhagen

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

Table 23b. Summary: Antimicrobial Resistance of *E. coli* O157 isolates, 1996-2001

<i>E. coli</i> O157	1996	1997	1998	1999	2000	2001
<i>E. coli</i> O157 isolates	201	161	313	292	407	277
Isolates resistant to ≥ 1 antimicrobial agents*	21% (42)	12% (20)	7% (23)	10% (30)	10% (40)	9% (24)
Isolates resistant to ≥ 2 antimicrobial agents*	8% (15)	7% (11)	5% (17)	4% (12)	7% (27)	5% (15)
Amikacin (MIC ≥ 64)	Not Tested	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Amoxicillin-Clavulanic Acid (MIC ≥ 32)	0% (0)	0% (0)	0% (0)	0.3% (1)	1.0% (4)	0.7% (2)
Ampicillin (MIC ≥ 32)	1.5% (3)	0% (0)	3% (8)	1.4% (4)	3% (11)	2% (6)
Apramycin (MIC ≥ 64)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Cefoxitin (MIC ≥ 32)	Not Tested	Not Tested	Not Tested	Not Tested	1.0% (4)	0.7% (2)
Ceftiofur (MIC ≥ 8)	5% (10)	0% (0)	0% (0)	0% (0)	1.0% (4)	1.1% (3)
Ceftriaxone (MIC ≥ 64) (Sensititre)	0% (0)	0% (0)	0% (0)	0% (0)	0.2% (1)	0% (0)
Ceftriaxone (MIC ≥ 64) (E-test)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	NA
Ceftriaxone (MIC ≥ 64)† (By-hand broth microdilution)	NA	NA	NA	0% (0)	0% (0)	0% (0)
Cephalothin (MIC ≥ 32)	3% (6)	4% (6)	0% (0)	0.7% (2)	1.2% (5)	1.4% (4)
Chloramphenicol (MIC ≥ 32)	0.5% (1)	0% (0)	0.3% (1)	0% (0)	4% (15)	1.4% (4)
Ciprofloxacin (MIC ≥ 4)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Gentamicin (MIC ≥ 16)	0% (0)	0% (0)	0% (0)	0.3% (1)	0.5% (2)	0.4% (1)
Imipenem (MIC ≥ 16)	Not Tested	0% (0)				
Kanamycin (MIC ≥ 64)	0% (0)	0% (0)	0.3% (1)	0.7% (2)	1.0% (4)	0% (0)
Nalidixic Acid (MIC ≥ 32)	0% (0)	0% (0)	0% (0)	0.7% (2)	0.5% (2)	1.1% (3)
Streptomycin (MIC ≥ 64)	2% (4)	2% (4)	1.9% (6)	3% (8)	5% (21)	1.8% (5)
Sulfamethoxazole (MIC ≥ 512)	14% (28)	11% (17)	6% (18)	8% (24)	6% (24)	5% (14)
Tetracycline (MIC ≥ 16)	5% (10)	3% (5)	4% (14)	3% (10)	7% (29)	5% (15)
Trimethoprim-Sulfamethoxazole (MIC $\geq 4/76$)	0% (0)	0% (0)	0.6% (2)	1.4% (4)	0.7% (3)	0.7% (2)

* Using only antimicrobial agents (n=15) tested in all six years

†By-hand broth microdilution criteria include isolates with a ceftiofur MIC of $\geq 4\mu\text{g}/\text{ml}$ and/or ceftriaxone $\geq 2\mu\text{g}/\text{ml}$

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

**Table 23c. Summary: Antimicrobial Resistance of *Campylobacter* isolates,
1997-2001**

<i>Campylobacter</i>	1997	1998	1999	2000	2001
<i>Campylobacter</i> isolates	217	345	319	324	387
Isolates resistant to ≥ 1 antimicrobial agents***	60% (130)	55% (190)	53% (170)	47% (154)	51% (196)
Isolates resistant to ≥ 2 antimicrobial agents***	27% (59)	18% (62)	20% (64)	15% (49)	22% (84)
Ciprofloxacin (MIC ≥ 4)	13% (29)	14% (47)	18% (58)	14% (46)	19% (75)
Nalidixic Acid (MIC ≥ 32)	24% (52)	17% (59)	21% (67)	17% (54)	20% (78)
Erythromycin (MIC ≥ 8)	8% (17)	3% (11)	2% (8)	1.5% (5)	3% (11)
Azithromycin (MIC ≥ 2)	Not Tested	2% (8)	3% (10)	2% (7)	3% (11)
Chloramphenicol (MIC > 32)	6% (13)	1.7% (6)	0.3% (1)	0% (0)	0% (0)
Clindamycin (MIC ≥ 4)	6% (14)	1.4% (5)	1.6% (5)	1.2% (4)	3% (11)
Gentamicin(MIC ≥ 16)	Not Tested	0% (0)	0% (0)	0.3% (1)	0% (0)
Tetracycline(MIC ≥ 16)	48% (104)	46% (158)	44% (141)	38% (122)	41% (157)

*** Using only *Campylobacter* antimicrobial agents (n=6) tested in all five years

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

**Table 23c. Summary: Antimicrobial Resistance of *Campylobacter* isolates,
1997-2001**

<i>Campylobacter</i>	1997	1998	1999	2000	2001
<i>Campylobacter jejuni</i> isolates	209	330	295	304	366
Isolates resistant to ≥ 1 antimicrobial agents***	59% (124)	55% (181)	54% (158)	49% (148)	50% (184)
Isolates resistant to ≥ 2 antimicrobial agents***	26% (55)	16% (54)	19% (57)	15% (47)	21% (76)
Ciprofloxacin (MIC ≥ 4)	13% (27)	13% (44)	18% (52)	14% (43)	18% (67)
Nalidixic Acid (MIC ≥ 32)	23% (49)	15% (50)	20% (59)	16% (49)	19% (70)
Erythromycin (MIC ≥ 8)	8% (16)	3% (9)	2% (6)	1.3% (4)	3% (10)
Azithromycin (MIC ≥ 2)	Not Tested	1.8% (6)	3% (8)	2% (6)	3% (10)
Chloramphenicol (MIC ≥ 32)	6% (12)	0.6% (2)	0.3% (1)	0% (0)	0% (0)
Clindamycin (MIC ≥ 4)	6% (12)	0.9% (3)	1.0% (3)	1.0% (3)	3% (10)
Gentamicin(MIC ≥ 16)	Not Tested	0% (0)	0% (0)	0% (0)	0% (0)
Tetracycline(MIC ≥ 16)	48% (100)	46% (153)	46% (135)	38% (117)	40% (147)

*** Using only *Campylobacter* antimicrobial agents (n=6) tested in all five years

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

**Table 23c. Summary: Antimicrobial Resistance of *Campylobacter* isolates,
1997-2001**

<i>Campylobacter</i>	1997	1998	1999	2000	2001
<i>Campylobacter coli</i> isolates	4	9	20	11	16
Isolates resistant to ≥ 1 antimicrobial agents***	75% (3)	55% (5)	50% (10)	36% (4)	62% (10)
Isolates resistant to ≥ 2 antimicrobial agents***	25% (1)	33% (3)	35% (7)	27% (3)	44% (7)
Ciprofloxacin (MIC ≥ 4)	0% (0)	11% (1)	30% (6)	27% (3)	44% (7)
Nalidixic Acid (MIC ≥ 32)	25% (1)	55% (5)	30% (6)	27% (3)	44% (7)
Erythromycin (MIC ≥ 8)	0% (0)	11% (1)	10% (2)	9% (1)	0% (0)
Azithromycin (MIC ≥ 2)	Not Tested	11% (1)	10% (2)	9% (1)	0% (0)
Chloramphenicol (MIC ≥ 32)	25% (1)	22% (2)	0% (0)	0% (0)	0% (0)
Clindamycin (MIC ≥ 4)	0% (0)	11% (1)	10% (2)	9% (1)	0% (0)
Gentamicin (MIC ≥ 16)	Not Tested	0% (0)	0% (0)	9% (1)	0% (0)
Tetracycline (MIC ≥ 16)	75% (3)	44% (4)	30% (6)	27% (3)	62% (10)

*** Using only *Campylobacter* antimicrobial agents (n=6) tested in all five years

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

**Table 23d. Summary: Antimicrobial Resistance of *Shigella* isolates,
1999-2001**

<i>Shigella</i>	1999	2000	2001
<i>Shigella</i> isolates	375	451	344
Isolates resistant to ≥ 1 antimicrobial agents*	91% (341)	93% (418)	95% (327)
Isolates resistant to ≥ 2 antimicrobial agents*	65% (245)	67% (302)	31% (244)
Amikacin (MIC ≥ 64)	0% (0)	0.2% (1)	0% (0)
Amoxicillin-Clavulanic Acid (MIC ≥ 32)	1.1% (4)	2% (10)	5% (17)
Ampicillin (MIC ≥ 32)	78% (291)	79% (356)	80% (274)
Apramycin (MIC ≥ 64)	0% (0)	0.2% (1)	0% (0)
Cefoxitin (MIC ≥ 32)	Not Tested	0.4% (2)	1.2% (4)
Ceftiofur (MIC ≥ 8)	0% (0)	0% (0)	0.9% (3)
Ceftriaxone (MIC ≥ 64) (Sensititre)	0% (0)	0% (0)	0% (0)
Ceftriaxone (MIC ≥ 64) (E-test)	0% (0)	0% (0)	0% (0)
Ceftriaxone (MIC ≥ 64)† (By-hand broth microdilution)	0% (0)	0% (0)	0% (0)
Cephalothin (MIC ≥ 32)	3% (12)	8% (36)	9% (31)
Chloramphenicol (MIC ≥ 32)	17% (65)	14% (63)	21% (74)
Ciprofloxacin (MIC ≥ 0.25)	1.0% (3)	0.2% (1)	0.3% (1)
Ciprofloxacin (MIC ≥ 4)	0% (0)	0% (0)	0.3% (1)
Gentamicin (MIC ≥ 16)	0.3% (1)	0.2% (1)	0% (0)
Imipenem (MIC ≥ 16)	Not Tested	Not Tested	0% (0)
Kanamycin (MIC ≥ 64)	0.5% (2)	1.3% (6)	0.6% (2)
Nalidixic Acid (MIC ≥ 32)	1.6% (6)	1.1% (5)	1.7% (6)
Streptomycin (MIC ≥ 64)	56% (209)	57% (258)	53% (184)
Sulfamethoxazole (MIC ≥ 512)	56% (210)	56% (252)	56% (194)
Tetracycline (MIC ≥ 16)	57% (215)	45% (202)	59% (204)
Trimethoprim- Sulfamethoxazole (MIC $\geq 4/76$)	51% (193)	53% (239)	47% (161)

* Using only antimicrobial agents (n=15) tested in all six years

†By-hand broth microdilution criteria include isolates with a ceftiofur MIC of $\geq 4\mu\text{g}/\text{ml}$ and/or ceftriaxone $\geq 2\mu\text{g}/\text{ml}$

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

Table 23d. Summary: Antimicrobial Resistance of *Shigella sonnei* isolates, 1999-2001

<i>Shigella</i>	1999	2000	2001
<i>Shigella sonnei</i> isolates	275	367	240
Isolates resistant to ≥ 1 antimicrobial agents*	89% (246)	92% (339)	95% (227)
Isolates resistant to ≥ 2 antimicrobial agents*	58% (160)	64% (233)	62% (150)
Amikacin (MIC ≥ 64)	0% (0)	0.3% (1)	0% (0)
Amoxicillin-Clavulanic Acid (MIC ≥ 32)	0.4% (1)	1.9% (7)	5% (13)
Ampicillin (MIC ≥ 32)	80% (219)	80% (295)	83% (199)
Apramycin (MIC ≥ 64)	0% (0)	0.3% (1)	0% (0)
Cefoxitin (MIC ≥ 32)	Not Tested	0.5% (2)	1.7% (4)
Ceftiofur (MIC ≥ 8)	0% (0)	0% (0)	0.8% (2)
Ceftriaxone (MIC ≥ 64) (Sensititre)	0% (0)	0% (0)	0% (0)
Ceftriaxone (MIC ≥ 64) (E-test)	0% (0)	0% (0)	NA
Ceftriaxone (MIC ≥ 64)† (By-hand broth microdilution)	0% (0)	0% (0)	0% (0)
Cephalothin (MIC ≥ 32)	3% (8)	9% (32)	12% (30)
Chloramphenicol (MIC ≥ 32)	1.8% (5)	3% (10)	1.7% (4)
Ciprofloxacin (MIC ≥ 0.25)	0.7% (2)	0.3% (1)	0% (0)
Ciprofloxacin (MIC ≥ 4)	0% (0)	0% (0)	0% (0)
Gentamicin (MIC ≥ 16)	0.4% (1)	0.3% (1)	0% (0)
Imipenem (MIC ≥ 16)	Not Tested	Not Tested	0% (0)
Kanamycin (MIC ≥ 64)	0.7% (2)	1.6% (6)	0.4% (1)
Nalidixic Acid (MIC ≥ 32)	1.4% (4)	1.4% (5)	0.8% (2)
Streptomycin (MIC ≥ 64)	52% (143)	56% (206)	54% (130)
Sulfamethoxazole (MIC ≥ 512)	54% (150)	56% (206)	54% (130)
Tetracycline (MIC ≥ 16)	46% (127)	34% (126)	45% (108)
Trimethoprim-Sulfamethoxazole (MIC $\geq 4/76$)	53% (146)	55% (202)	50% (121)

* Using only antimicrobial agents (n=15) tested in all six years

†By-hand broth microdilution criteria include isolates with a ceftiofur MIC of $\geq 4\mu\text{g}/\text{ml}$ and/or ceftriaxone $\geq 2\mu\text{g}/\text{ml}$

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

Table 23d. Summary: Antimicrobial Resistance of *Shigella flexneri* isolates, 1999-2001

<i>Shigella</i>	1999	2000	2001
<i>Shigella flexneri</i> isolates	87	75	91
Isolates resistant to ≥ 1 antimicrobial agents*	95% (83)	96% (72)	97% (88)
Isolates resistant to ≥ 2 antimicrobial agents*	84% (73)	83% (62)	90% (82)
Amikacin (MIC ≥ 64)	0% (0)	0% (0)	0% (0)
Amoxicillin-Clavulanic Acid (MIC ≥ 32)	3% (3)	4% (3)	4% (4)
Ampicillin (MIC ≥ 32)	77% (67)	77% (58)	72% (66)
Apramycin (MIC ≥ 64)	0% (0)	0% (0)	0% (0)
Cefoxitin (MIC ≥ 32)	Not Tested	0% (0)	0% (0)
Ceftiofur (MIC ≥ 8)	0% (0)	0% (0)	1.1% (1)
Ceftriaxone (MIC ≥ 64) (Sensititre)	0% (0)	0% (0)	0% (0)
Ceftriaxone (MIC ≥ 64) (E-test)	0% (0)	0% (0)	NA
Ceftriaxone (MIC ≥ 64)† (By-hand broth microdilution)	0% (0)	0% (0)	0% (0)
Cephalothin (MIC ≥ 32)	5% (4)	3% (2)	1.1% (1)
Chloramphenicol (MIC ≥ 32)	64% (56)	69% (52)	75% (68)
Ciprofloxacin (MIC ≥ 0.25)	1.1% (1)	0% (0)	1.1% (1)
Ciprofloxacin (MIC ≥ 4)	0% (0)	0% (0)	1.1% (1)
Gentamicin (MIC ≥ 16)	0% (0)	0% (0)	0% (0)
Imipenem (MIC ≥ 16)	Not Tested	Not Tested	0% (0)
Kanamycin (MIC ≥ 64)	0% (0)	0% (0)	1.1% (1)
Nalidixic Acid (MIC ≥ 32)	1.1% (1)	0% (0)	3% (3)
Streptomycin (MIC ≥ 64)	63% (55)	61% (46)	47% (43)
Sulfamethoxazole (MIC ≥ 512)	59% (51)	53% (40)	57% (52)
Tetracycline (MIC ≥ 16)	92% (80)	92% (69)	94% (86)
Trimethoprim-Sulfamethoxazole (MIC $\geq 4/76$)	48% (42)	43% (32)	34% (31)

* Using only antimicrobial agents (n=15) tested in all six years

†By-hand broth microdilution criteria include isolates with a ceftiofur MIC of $\geq 4\mu\text{g}/\text{ml}$ and/or ceftriaxone $\geq 2\mu\text{g}/\text{ml}$

National Antimicrobial Resistance Monitoring System For Enteric Bacteria

Table 23e. Summary: Antimicrobial Resistance of *Salmonella* Typhi isolates, 1999-2001

<i>Salmonella</i> Typhi	1999	2000	2001
<i>Salmonella</i> Typhi isolates	166	176	198
Isolates resistant to ≥ 1 antimicrobial agents*	29% (49)	28% (50)	41% (81)
Isolates resistant to ≥ 2 antimicrobial agents*	15% (25)	12% (21)	23% (45)
Amikacin (MIC > 64)	0% (0)	1.1% (2)	0% (0)
Amoxicillin-Clavulanic Acid (MIC > 32)	0.6% (1)	0% (0)	0% (0)
Ampicillin (MIC ≥ 32)	13% (21)	9% (16)	20% (40)
Apramycin (MIC ≥ 64)	0% (0)	1.1% (2)	0% (0)
Cefoxitin (MIC ≥ 32)	Not Tested	1.7% (3)	0.5% (1)
Ceftiofur (MIC ≥ 8)	1.2% (2)	0.6% (1)	0% (0)
Ceftriaxone (MIC ≥ 64) (Sensititre)	0.6% (1)	1.1% (2)	0% (0)
Ceftriaxone (MIC ≥ 64) (E-test)	0% (0)	0% (0)	NA
Ceftriaxone (MIC ≥ 64)† (By-hand broth microdilution)	0% (0)	0% (0)	0% (0)
Cephalothin (MIC ≥ 32)	2% (4)	1.1% (2)	0.5% (1)
Chloramphenicol (MIC ≥ 32)	12% (20)	11% (19)	21% (41)
Ciprofloxacin (MIC > 0.25)	15% (25)	22% (38)	20% (39)
Ciprofloxacin (MIC ≥ 4)	0% (0)	0% (0)	0% (0)
Gentamicin (MIC ≥ 16)	0% (0)	0.6% (1)	0% (0)
Imipenem (MIC ≥ 16)	Not Tested	Not Tested	0% (0)
Kanamycin (MIC > 64)	0% (0)	0.6% (1)	0.5% (1)
Nalidixic Acid (MIC ≥ 32)	19% (31)	23% (41)	30% (59)
Streptomycin (MIC ≥ 64)	14% (23)	10% (18)	20% (40)
Sulfamethoxazole (MIC ≥ 512)	17% (28)	12% (21)	21% (41)
Tetracycline (MIC ≥ 16)	9% (15)	11% (19)	21% (41)
Trimethoprim-Sulfamethoxazole (MIC $\geq 4/76$)	13% (21)	9% (16)	21% (41)

* Using only antimicrobial agents (n=15) tested in all six years

†By-hand broth microdilution criteria include isolates with a ceftiofur MIC of $\geq 4\mu\text{g}/\text{ml}$ and/or ceftriaxone $\geq 2\mu\text{g}/\text{ml}$

Routine Enteric Pathogen Isolate Submission to CDC: NARMS - 2002***(Use NARMS Isolate Submission Log Sheets; a Specific Log Sheet is Available for Each Pathogen)**

Pathogen	NARMS Isolate Submission Requirement	Isolate Submission Frequency	Contact Person	Where to Submit
<i>Non-Typhi Salmonella</i>	every 10th	At least quarterly – Monthly preferred	Kevin Joyce	CDC/NCID/DBMD/FDDB/NARMS MS G-29 NARMS Laboratory Building 17/ Room 1227 1600 Clifton Rd. Atlanta, GA 30333
<i>E. coli</i> O157	every 5th			
<i>Shigella</i>	every 10th			
<i>Salmonella</i> Typhi	ALL			
<i>Listeria monocytogenes</i>	ALL	At least every two weeks		
<i>Campylobacter</i> (FoodNet Sites Only)	1 st isolate received every week	Once per month		
<i>Non-cholerae Vibrio</i>	ALL	At least quarterly – Monthly preferred		
<i>Vibrio cholerae</i> **	ALL	Immediately upon receipt	Joy Wells	Centers for Disease Control and Prevention Data & Specimen Handling Sect. Bldg. 4, RM. B35-G12 1600 Clifton Rd., NE Atlanta, GA 30333

*Routine, non-outbreak associated isolate submission. Do NOT use DASH form for NARMS isolate submission.

**Please send ALL *V. cholerae* isolates immediately upon receipt to Joy Wells. Please USE DASH FORM for ALL *V. cholerae* isolates.

-----Original Message-----

From: Fields, Patricia
To: 'SALM-USA@LISTSERV.CDC.GOV'
Sent: 7/23/2002 3:07 PM
Subject: New QC/QA program for Salmonella serotyping and susceptibility testing

It is with pleasure that I announce the initiation of a quality control/quality assurance program for Salmonella serotyping and susceptibility testing for the state health departments. Some of you may remember that CDC used to sponsor such a program, but it was discontinued due to lack of resources. The FDA's Center for Veterinary Medicine has provided us funding through NARMS to resume this program. Of course, the program will be entirely voluntary.

We are still in the very early planning stages and welcome any comments or ideas on how the program should be structured. We are tentatively thinking of sending to all interested labs a panel of 10 Salmonella isolates. We are planning to include a brief questionnaire with the isolates to get an idea of the methods and reagents that the labs are using. The lab can perform serotyping, susceptibility testing, or both, and forward the results back to the CDC. The CDC will provide timely feedback regarding accuracy of results and hopefully some helpful suggestions on how to improve accuracy, as necessary.

We have hired Ms. Jill Steigerwalt to oversee the program. Please email Jill or me (see contact information below) to express your interest in the program, offer input, or ask questions.

We look forward to hearing from you!

Best regards,

Patti
Patricia Fields PhD
Chief, National Salmonella Reference Laboratory
Foodborne and Diarrheal Diseases Branch
Centers for Disease Control and Prevention
phone (404) 639-1748
fax (404) 639-3333
email pifl@cdc.gov <mailto:pifl@cdc.gov>

Jill Steigerwalt
Foodborne and Diarrheal Diseases Branch
Centers for Disease Control and Prevention
phone (404) 639-1218
fax (404) 639-3333
email zlq9@cdc.gov <mailto:zlq9@cdc.gov>